

The Anomaly of the Magnetic Anisotropy of $K_3Fe(CN)_6$
Single Crystals at Low Temperatures

SOV/56-35-3-12/61

the opposite direction). Interaction between paramagnetic ions is looked upon as the cause of this anisotropy. There are 2 figures and 16 references, 4 of which are Soviet.

ASSOCIATION: Institut biologii i meditsiny Akademii nauk Germanской
Demokraticeskoy Respubliki (Institute of Biology and
Medicine of the German Democratic Republic)

SUBMITTED: April 25, 1958

Card 3/3

GISINA, K.B.; SHOFER, R.I.

Effect of interface movement in capillary-porous and colloid bodies on heat and mass transfer process during the sublimation of ice in a vacuum. Inzh.-fiz. zhur. 7 no.5:34-38 My '64.

(MIRA 17:6)

1. Institut teplo- i massoobemena AN BSSR, Minsk.

СКОПНА, Н. Ф.

Fueling of tractors, cars and combines used in agriculture. Moskva, Gos. nauchno-tekhn. izd-vo neftianoi i gorno-toplivnoi lit-ry, 1949. 84 p. (V pomoshch' neftebazar MTS i sovkhozov) (50-29827)

S760.R9Sh8

(Petroleum product accounting in machine-tractor stations and sovkhoses)
Moskva, Gos. nauchno-tekhn. izd-vo neftianoi i gorno-toplivnoi lit-ry,
1949. 107 p. (V pomoshch' neftebazam MTS i sovkhovov) (50-27584).

TP692.5.S5

The construction and equipping of petroleum supply bases at machine-tractor stations and sovkhozes. Moscow, Gos. nauchno-tekhn. izd-vo nefti i gorno-toplivnoi lit-ry, 1949. 125 p. (V remochek'neftebaza i t.p. i sovkhozov) (50-27585)

TE642.5.348

SHOFFA, M. F.

The utilization of petroleum at the machine-tractor stations and sovkhoses. Moskva, Gos. nauchno-tekhn. izd-vo neftianoi i gorno-toplivnoi lit-ry, 1949. 139 p.
(V pomoshch' neftebazam MTS i sovkhovov) (51-19416)

TP692.5.Sh78

SHUTTA, A. F.

Technology

Short manual for employees handling petroleum products at machine-tractor stations and state farms; Moskva, Gos. nauch-tekhn. izd-vo neftianoi i gornotoplivnoi lit-ry, 1951.

9. MONTHLY LIST OF RUSSIAN ACCESSIONS, Library of Congress, May 1952. Uncl.

AID P - 516

Subject : USSR/Engineering

Card 1/1 Pub. 93 - 3/12

Author : Shoffa, N. F., Engineer

Title : Equipment for the preparation of reinforcing frameworks

Periodical : Sbor. mat. o nov. tekhn. v stroi., 6, 9-12, 1954

Abstract : Work benches are suggested for assembling and welding of reinforcing bar frameworks for concrete structures.
6 diagrams show the details.

Institution : None

Submitted : No date

SHOFFA, N.F.; YERSHOV, P.R., vedushchiy redaktor; TROFIMOV, A.V., tekhnicheskii redaktor

[Petroleum products at machine-tractor stations and on state farms;
brief manual] Neftekhoziaistvo MFS i sovkhovov; kratkii spravochnik.
2-e izd., ispr. i dop. Moskva, Gos. nauchno-tekhnicheskoe izd-vo
neftianoi i gorno-toplivnoi lit-ry, 1955. 210 p. (MIRA 8:10)
(Petroleum products)

SHOFFA, N., inzhener.

Fifty blocks per shift instead of thirty. Stroitel' 2 no. 9:11 S'56.
(MIRA 10:1)

(Cranes, derricks, etc) (Building blocks)

GRECHUSHNIKOV, G.A., glavnyy inzhener; SHOFFA, N.F., inzhener.

Welding one-dimensional and three-dimensional reinforcement frames
on the MTP-75 and MTB-100 welding machines. Stroi.prom.34 no.6:8-10
Je '56. (MLRA 9:9)

1.Orgstrey Minmetallurgkhimstroya SSSR.
(Reinforced concrete) (Electric welding)

SHOFMAN, A.B.

From the work of the analysis department of pharmacy No. 11 in
Leningrad. Apt. delo 10 no. 6: 59-61 N-D '61. (MIRA 15:2)
(LENINGRAD PHARMACY) (CHEMISTRY, ANALYTIC)

SECRET
IVANOV, A.F.; SHOFMAN, F.M.

Nitrogen industry in capitalist countries. Khim.mauka i prem. 1
no.6:699-705 '56. (MLRA 10:3)
(Nitrogen industries)

IVANOV, A.F.; SHOFMAN, F.M.

Production of synthetic ammonia in the United States. Biul.tekh.-
ekon.inform. no.12:80-84 '59. (MIRA 13:4)
(United States--Ammonia)

IVANOV, A.F.; SHOFMAN, F.M.

Production of nitrogen fertilizers in the United States.
Biul.tekh.-ekon.inform. no.2:93-96 '60. (MLRA 13:6)
(United States--Nitrates)

IVANOV, A.F.; SHOFMAN, F.M.

Nitrogen fertilizer industry of the capitalist countries
in Western Europe. Biul.tekh.-ekon.inform. no.7:92-95
'60. (MIRA 13:7)

(Europe, Western—Fertilizer industry)

SHOFMAN, F.M.

Synthetic fibers and chemical raw materials used in their manufacture. Biul.tekhn.-ekon.inform. no.12:86-91 '60. (MIRA 13:12)
(Textile fibers, Synthetic)

SHOPIAN, L. A.

Glubokala vytiazhka listovogo metalla. Moskva, 1945. 46 n. diaars. (Institut tekhniko-ekonomicheskoi informatsii (Izdaniia) 1945, No 2)

(Extrusion of sheet metal.)

DLC: TS250.S46

SO: Manufacturing and Mechanical Engineering in the Soviet Union,
Library of Congress, 1953.

SHIFMAN, L. A.

Avtomatizatsiia i mekhanizatsiia shtampoval'nykh rabot. Moskva, IZVIM
Gosplana SSSR, 1946. 56 p.

(Automatization and mechanization of stamping operations.)

SO: Manufacturing and Mechanical Engineering in the Soviet Union,
Library of Congress, 1953.

*SHOFMAN, L. A.

"Measurement of the Speed of the Members of a Forging Machine," Vest. Mashinostroy.,
No. 6, 1948, Cand. Tech. Sci.

CHEN, S. A.

Mekhanizatsiia i avtomatizatsiia shtampoval'nykh rabot. (Vestn. Mash.,
1949, no. 10, p. 52-56)

(Mechanization and automatization of stamping operations.)

DLC: Tth.Vh

SC: Manufacturing and Mechanical Engineering in the Soviet Union,
Library of Congress, 1953.

17

Plastic Bending. L. A. Shulman and P. I. Lokotsh
Zavodskaya Laboratoriya (Factory Laboratory), v. 17,
Nov. 1940, p. 1348-1355

Proposes single calculation formula for determination of bending moment under both cold and hot plastic bending in the region of large deformations. Satisfactory agreement of experimental and calculated values establishes validity of the formula. Possibility of determining yield strength at high temperatures by bending tests is indicated.

ASB-1LA METALLURGICAL LITERATURE CLASSIFICATION

Shofman, L. A.

"Experimental Investigation of Cold and Hot Upsetting", from book
"Novyye Issledovaniya v Oblasti Kuznechnoy Tekhnologii", Edited by
Ye. P. Unksov, Mashgiz, 1950, Moscow.

Shofman, L.

"Ring Upsetting", Chapter LX from Book "Principles and Theory of Cold Stamping", Oborongiz, Moscow, 1952 (TS 462 S 45).

PROFAN, L A

Elementy Teorii Kholodnoy Shtampovki (Factors in The Theory of Cold
Stamping) Moskva, Oborongiz, 1952.

324 p. Illus., Diagrams, Tables.
Literatura: p. 320--(332)

So: H/S
615.515
.S5

STEPANOV, V.N.; SHOFMAN, L.A., rdaktor; ZUDAKIN, I.M., tekhnicheskii
redaktor.

[Technology of stamping parts and of the construction of dies]
Tekhnologiya chekanki shtampovannykh detalei i konstruktsii
chekanochnykh shtampov. Moskva, Gos. izd-vo oboronnoi promyshl..
1954. 190 p. (MLRA 7:12)
(Dies (Metalworking) (Forging))

MALOV, A.N.; SHOFMAN, L.A., kandidat tekhnicheskikh nauk, redaktor;
~~ZUDAKIN, I.M., tekhnicheskiiy redaktor~~

[The operator of cold stamping machinery] Shtampovshchik po kholodnoy shtampovke. Moskva, Gos. izd-vo oboronnoi promyshlennosti, 1954. 214 p. (MLRA 8:6)
(Power presses) (Metals--Cold working)

SHOFMAN, I.A., kandidat tekhnicheskikh nauk.

Study of drawing and drop forging of large-diameter sheet-metal end
plates. [Trudy] TSNIITMASH 62:102-130 '54. (MLBA 7:9)
(Extrusion (Metals)) (Forging) (Sheet metal work)

ALTYKIS, A.V., kandidat tekhnicheskikh nauk; SHOFMAN, L.A., kandidat tekhnicheskikh nauk.

Effect of peening on the drawing of sheet metal. Metalloved. i obr.met.
no.8:37-42 Ag '56. (MLRA 9:10)

1. Tsentral'nyy Nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya.
(Sheet steel--Hardening) (Deep drawing (Metalwork))

SHOFMAN, L.A., kandidat tekhnicheskikh nauk.

New methods for calculating the processes of three-dimensional stamp-
ing. Vest.mash.36 no.12:54-60 D '56. (MLRA 10:2)
(Sheet-metal work) (Deep drawing (Metalwork))

SOV/137-57-11-21404 D

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 11, p 106 (USSR)

AUTHOR: Shofman, L.A.

TITLE: Elements of the Theory and Investigation of the Stamping of Sheet and Thick Blanks (Elementy teorii i issledovaniya ob'yemnoy i listovoy shtampovki)

ABSTRACT: Bibliographic entry on the Author's dissertation for the degree of Doctor of Technical Sciences, presented to the Mosk. in-t tsvet. met. i zolota (Moscow Institute of Nonferrous Metals and Gold), Moscow, 1957

ASSOCIATION: Mosk. in-t tsvet. met. i zolota (Moscow Institute of Nonferrous Metals and Gold), Moscow

Card 1/1

110) 1111, 2.11

IL'IN, M.M.; SHOFMAN, L.A., kandidat tekhnicheskikh nauk, retsenzent;
KUZNETSOVA, A.G., izdatel'skiy redaktor; KOKHTEV, A.A., inzhener,
redaktor; ROZHIN, V.P., tekhnicheskii redaktor.

[Production of one-piece steel ring blanks] Proizvodstvo stal'nykh
tsel'nokatanykh kolets-zagotovok. Moskva, Gos.izd-vo obr.promyshl.
1957. 126 p. (MLRA 10:4)

(Rolling (Metalwork))

OKHRIMENKO, Yakov Mikhaylovich; ARISTOV, V.M., kand.tekhn.nauk, retsenzent;
SHOFMAN, L.A., kand.tekhn.nauk, red.; MEZHOVA, V.A., red.izd-va;
-MODEL', B.O., tekhn.red.; TIKHANOV, A.Ya., tekhn.red.

[Principles of swaging] Osnovy tekhnologii goriachei shtampovki.
Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1957. 328 p.
(Forging) (MIRA 11:2)

SHOFMAN, L. A.

137-58-5-9550

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 104 (USSR)

AUTHOR: Shofman, L. A.

TITLE: Problems of the Kinematics of Changes in Shape Due to Press-working of Metals (Voprosy kinematiki formoizmeneniya pri obrabotke metallov davleniyem)

PERIODICAL: V sb.: Inzhenern. metody rascheta tekhnol. protsessov obrabotki metallov davleniyem. Moscow-Leningrad, Mashgiz, 1957, pp 207-215

ABSTRACT: A study of problems relating to changes in shape provides suitable criteria for the choice of optimal dimensions and shapes for the initial billet. A theoretical analysis of the movement of particles of matter and elementary units of the body being deformed is made from this point of view, and examples illustrating the propositions set forth are examined.

M. Ts.

1. Metals--Deformation 2. Metals--Processing 3. Industrial plants
--Standards

Card 1/1

SHOFMAN, L.A.

2>(1) PHASE I BOOK EXPLOITATION SOV/2944

Gubkin, Sergey Ivanovich (Deceased), Mikhail Vasil'yevich Storozhev, Boris Pavlovich Zvorono, Vasil'y Fedorovich Katkov, Ilariy Anatol'yevich Noritsyn, Yevgeniy Aleksandrovich Popov, Georgiy Aleksandrovich Shimov-Alyayev, Aleksandr Dmitriyevich Tomilenov, Yevgeniy Pavlovich Unkov, and Leopold Adol'fovich Shofman

Osnovy teorii obrabotki metallov davleniyem (Fundamentals of the Theory of Metal Forming) Moscow, Mashgiz, 1959. 538 p. Errata slip inserted. 7,500 copies printed.

Ed.: M. V. Storozhev; Ed. of Publishing House: A. I. Sirotn, Engineer; Tech. Ed.: B. I. Model'; Managing Ed. for Literature on Heavy Machine Building (Mashgiz): S. Ya. Golovin, Engineer.

PURPOSE: This book is intended for engineers and scientific workers studying the theoretical problems of metal forming.

COVERAGE: This collective work purportedly reflects the contemporary trends in the development of the metal-forming theory. Emphasis is given to methods of calculating forces and deformations. The use of these methods is illustrated in analysis of Smith- and drop-forging operations. No personalities are mentioned. There are 227 references: 197 Soviet, 17 German, and 13 English.

SHOTMAN, L.A.; PERLIN, P.I.

Theoretical analysis of the processes of shaping a rigid-plastic
body by pressure. Kuz.-shtam.proizv. 1 no.4:4-10 Ap '59.

(MIRA 12:10)

(Deformations (Mechanics)) (Forming)

report presented at the 1st All-Union Congress of Theoretical and Applied Mechanics,
Moscow, 27 Jan - 3 Feb 1964.

200. A. A. G. Mikhailov (Moscow): Variational methods in the theory of elasticity.
201. A. A. G. Mikhailov (Moscow): The stability of motions of solids - Lagrange's theorem for solids and its inversion.
202. A. A. G. Mikhailov (Moscow): Anisotropic approximation of a circular cylindrical shell.
203. A. A. G. Mikhailov (Moscow): On the uniqueness of the solution of the problem of the equilibrium of a circular plate under a uniformly distributed load.
204. A. A. G. Mikhailov (Moscow): The distribution of the deformation of a circular plate without diagonal.
205. A. A. G. Mikhailov (Moscow): A theory of concrete.
206. A. A. G. Mikhailov (Moscow): Some problems in the theory of concrete.
207. A. A. G. Mikhailov (Moscow): Vibrations of an elastic circular cylindrical shell under concentrated impact loading.
208. A. A. G. Mikhailov (Moscow): Some concrete equations of motion for a circular cylindrical shell.
209. A. A. G. Mikhailov (Moscow): Approximate treatment of cylindrical shells under concentrated loads.
210. A. A. G. Mikhailov (Moscow): Redundant treatment of problems at the edge of a thin-walled rectangular plate under gradually increasing loading.
211. A. A. G. Mikhailov (Moscow): Some unsolved problems of concrete elasticity.
212. A. A. G. Mikhailov (Moscow): Investigation of the viscoelastic behavior of elastic, viscoplastic materials in vibrations.
213. A. A. G. Mikhailov (Moscow): Problems of the non-linear theory of elasticity.
214. A. A. G. Mikhailov (Moscow): In the theory of the non-linear theory of elasticity.
215. A. A. G. Mikhailov (Moscow): Complete comparison of a wave equation in homogeneous elastic solids with parallel plane boundaries.
216. A. A. G. Mikhailov (Moscow): The method of electroplating and its applications.
217. A. A. G. Mikhailov (Moscow): Two-dimensional problems in the theory of plasticity of non-homogeneous and anisotropic media.
218. A. A. G. Mikhailov (Moscow): The state of stress in a deformed material.
219. A. A. G. Mikhailov (Moscow): A membrane theory for a cylindrical shell.
220. A. A. G. Mikhailov (Moscow): Creep, elastic properties and anisotropy of plastic materials.
221. A. A. G. Mikhailov (Moscow): A practical method of designing reinforced concrete structures with reference to creep.
222. A. A. G. Mikhailov (Moscow): The problem of structural damping.
223. A. A. G. Mikhailov (Moscow): An approximate method for solving elastic-plastic problems.
224. A. A. G. Mikhailov (Moscow): Application of the theory of rigid, elastic solids to problems of metal forming.
225. A. A. G. Mikhailov (Moscow): On the anisotropic problem of the theory of elasticity.
226. A. A. G. Mikhailov (Moscow): A method for studying the plane field of plastic volume strains in solids.
227. A. A. G. Mikhailov (Moscow): The application of some new methods of the theory of integral equations to the solution of contact problems of the theory of elasticity.
228. A. A. G. Mikhailov (Moscow): Free and forced vibrations of a plate taking into account shear deformation and rotary inertia.
229. A. A. G. Mikhailov (Moscow): Investigation and calculation of the dynamic behavior of elastic members of vibrating machines.
230. A. A. G. Mikhailov (Moscow): An elementary discussion of certain problems of concrete.
231. A. A. G. Mikhailov (Moscow): Photoelastic investigation of stresses in three-dimensional layered solids.

GOROZHANKIN, A.N., kand.tekhn.nauk; NOVITSKIY, V.K., kand.tekhn.nauk;
 KRYANIN, I.R., doktor tekhn.nauk; IODKOVSKIY, S.A., kand.tekhn.
 nauk; LADYZHENSKIY, B.N., kand.tekhn.nauk; MIL'MAN, B.S., kand.tekhn.
 nauk; KLOCHNEV, N.I., kand.tekhn.nauk; TSYPIN, I.O., kand.tekhn.
 nauk; LEVIN, M.M., kand.tekhn.nauk; BALDOV, A.L., inzh.; LYASS,
 A.M., kand.tekhn.nauk; CHERNYAK, B.Z., kand.tekhn.nauk; ASTAF'YEV,
 A.A., kand.tekhn.nauk; YERMAKOV, K.A., inzh.; GRIBOYEDOV, Yu.N.,
 kand.tekhn.nauk; MYASOYEDOV, A.N., inzh.; BOGATYREV, Yu.M., kand.
 tekhn.nauk; UNKSOV, Ye.p., doktor.tekhn.nauk, prof.; SHOFMAN, L.A.,
 kand.tekhn.nauk; PERLIN, P.I., inzh.; MOSHNIN, Ye.N., kand.tekhn.
 nauk; PROZOROV, L.V., doktor tekhn.nauk; CHERNOVA, Z.I., tekhn.
 red.

[Some technological problems in the manufacture of heavy machinery]
 Nekotorye voprosy tekhnologii tiazhelogo mashinostroenia, Moskva,
 Gos.nauchno-tekhn.izd-vo mashinostroit. lit-ry. Part 1. [Steel smelt-
 ing and casting; founding; heat treatment; shaping metals by pres-
 sure] Vyplavka i razliyka stali; liteinnoe proizvodstvo, termiche-
 skaia obrabotka, obrabotka metallov davleniem. 1960. 266 p. (Moscow.
 Sentral'nyi nauchno-issledovatel'skii institut tekhnologii i mashi-
 nostroenia. [Trudy] no. 98). (MIRA 13:7)
 (Steel) (Founding) (Forging)

Automation of Cold [Metal] Stamping Production 807/5930

COVERAGE: The collection contains reports delivered at the Kiev Scientific and Technical Conference by workers of machine and instrument plants, design organizations, and scientific research and educational institutes. The Conference was sponsored by the Ukrainskoye obshchestvo pravleniye Nauchno-tekhnicheskogo obshchestva nauchno-tekhnicheskoy promyshlennosti (Ukrainian Association of the Scientific and Technical Society of the Machine-Building Industry) and by the Ukrainskoye gosudarstvennoye nauchno-tekhnicheskoye upravleniye (Ukrainian State Scientific and Technical Administration). The purpose of the Conference was to discuss the achievements and practical experience (especially at the Goskiz Avtomaticheskoye Obshchestvo) in the automation of stamping production. The Conference was held in the city of Kiev in the city of Kiev and with the prospects for its further development. Papers dealing with the experience in the design and operation of automatic devices, presses, and automatic production lines and in stamping production were discussed. No personalities are mentioned. References accompany most of the articles.

TABLE OF CONTENTS:

Foreword

Card-2/5

PHASE I BOOK EXPLANATION 807/5930

Golubov, T.M., Doctor of Technical Sciences, Professor, and I.P. Tartakovsky, Candidate of Technical Science, Docent, eds.

Avtomatizatsiya kholodnochnoprovodnykh prazhnykh (Automation of Cold [Metal] Stamping Production) Moscow, Mashgit, 1961. 282 p. 6,000 copies printed.

Sponsoring Agency: Gosudarstvennyy nauchno-tekhnicheskii knizhnyy fond Soversha Ministrov URSR Institut tekhnicheskoy informatsii. Nauchno-tekhnicheskoye obshchestvo mashinostroyeniya promyshlennosti. Ukrainskoye obshchestvo pravleniye Nauchno-tekhnicheskoye obshchestvo mashinostroyeniya promyshlennosti. Ukrainskoye gosudarstvennoye nauchno-tekhnicheskoye upravleniye.

Eds.: M.S. Soroka, Tech. Ed.; M.S. Gornostaylovskiy, Chief Ed.; (Southern Dept. Mashgit): V.I. Serdyuk, Engineer.

FOREWORD: This collection of articles is intended for workers at machine and instrument plants and scientific research and design institutes.

Card-2/5

Automation of Cold [Metal] Stamping Production	5
Burchakov, D. Ye. Automation of Stamping in Press Shops (From the Practice at GAZ (Gorkiy Automobile Plant))	5
Romanovskiy, V.P. Automation of Stamping Processes at Leningrad Plants	27
Lopin, P.M. Mechanization and Automation of Stamping Operations (From Factory Practice)	40
Koshkin, L.N. Automatic Rotary Transfer-Machine Lines	48
Kravchenko, D.G. Automation of Stamping Processes (From the Practice of the Barnaul'skiy zavod mekhanicheskikh pressov (Barnaul Mechanical Presses Plant))	71
Brudenko, Ye. I. Investigating the Operation of Automatic Stamping Production Lines for Relay Springs	85
Zlotnikov, S.L. Some Problems of Automation in Stamping Production	98
Shofman, L.A. The Present State of Stamping Production and Anticipated Problems	101
Card 3/5	

PHASE I BOOK EXPLOITATION

SOV/5490

Shofman, Leopold' d Adel'ovich, Doctor of Technical Sciences

Osnovy rascheta protsessov shtampovki i pressovaniya (Fundamentals for the Calculation of Die-Forging and Extrusion Processes) Moscow, Mashgiz, 1961. 339 p. Errata slip inserted. 9,000 copies printed.

Ed.: G.M. Makovskiy, Engineer; Ed. of Publishing House: L.A. Osipova; Tech. Ed.: Z.I. Chernova; Managing Ed. for Literature on Hot-Processed Metals: S.Ya. Golovin, Engineer.

PURPOSE: This book is intended for technical personnel in die-forging shops, planning organizations, and scientific research institutes; it may also be used by teachers and students in technical schools.

COVERAGE: Fundamentals of theories and methods of calculating the parameters of processes of forging, extrusion, and die forging of three-dimensional, sheet, and tubular blanks are stated. Sample calculations and data concerning the selection of parameters for press-forging equipment are also given. A considerable part of the book is based on work carried out by P.I. Perlin, Candidate of Physics

Card 1/5

SOV/5799

SHERMAN, L.A.

PHASE I BOOK EXPLOITATION

Unkov, Ye.P., Doctor of Technical Sciences, Professor, Ed.
Sovremennoye sostoyaniye kuznechno-shtampovogo proizvodstva (Present State
of the Pressworking of Metals) [Moscow] Mashgiz, 1961. 434 p. 5000 copies
printed.

Ed. of Publishing House: A.I. Sirotnin; Tech. Ed.: B.I. Model'; Managing Ed. for
Literature on the Hot Working of Metals: S.Ya. Golovin, Engineer.

Title: Kuznechno-shtampovoye proizvodstvo v SSSR (The Pressworking of Metals
in the USSR) by: A.V. Altyks, D.I. Borzhakovskiy, V.F. Volkovitskiy, I.I.
Girsh (deceased), L.D. Gol'man, S.P. Granovskiy, N.S. Dobrinakiy, Ye.K. Zinin,
S. L. Zlotnikov, A.I. Kagalovskiy, P.V. Lobachov, V.N. Martynov, Ye.A. Stosha, Yu.L.
Rozhdestvenskiy, N.V. Tikhomirov, Ye.P. Unkov, V.F. Sheheglov, and L.A. Sher-
man; Eds: Ye.P. Unkov, Doctor of Technical Sciences, Professor, and B.V. Roza-
nov.

Title: Kuznechno-shtampovoye proizvodstvo v ChSSR (The Pressworking of Metals
in the Czechoslovak SR) by: S. Burda, F. Brazdil, F. Drastik, F. Zlatohlavek

Card 1/8

SGI/5799

Present State of the (Cont.)

Z. Kejval, V. Krauz, F. Kupka, F. Majer, K. Marvan, J. Novák, J. Odchal,
K. Paul, B. Schner, M. Hanz, J. Částka, V. Šindler, and J. Šolc; Eds.:
A. Mejersa and M. Vlk.

PURPOSE: This book is intended for engineers and scientific personnel concerned with the pressworking of metals.

COVERAGE: Published jointly by Mashgiz and SNTL, the book discusses the present state of the pressworking of metals in the USSR and the Czechoslovak Socialist Republic. Chapters were written by both Soviet and Czechoslovak writers. No personalities are mentioned. There are 129 references: 98 Soviet, 16 English, 8 German, 5 Czech, and 2 French.

TABLE OF CONTENTS:

PRESSWORKING IN THE USSR

- Ch. I. The Characteristics of Forging Shops in USSR Plants (A.I. Zimin and Ye.P. Unksov) 5
- Ch. II. Methods of Calculating the Pressure for Forging in the Pressworking
- Card 2/8

36

Present State of the (Cont.)	
of Metals [Ye.P. Unkov]	
Ch. III. Die Forging on Forging Presses [V.F. Volkovitskiy]	13
Ch. IV. Die Forging on Horizontal Upsetters [I.I. Girsh, deceased]	22
Ch. V. Die Forging on Drop Hammers and [Power-Screw] Percussion Presses [Ya. M. Okhrimenko and V.F. Shcheglov]	31
Ch. VI. The Making of Forgings and Shaped Blanks in Forging Rolls [V.N. Martynov]	41
Ch. VII. Die-Sizing in Squeeze-Forming Presses [V.F. Volkovitskiy]	58
Ch. VIII. Rolling-Out Annular Blanks [Yu.L. Rozhdestvenskiy]	77
Ch. IX. The Manufacture of Metal Hardware on Pressworking Automatics [G.A. Navrotskiy]	82
	93

Card 3/8

36

Present State of the (Cont.)

SOV/5799

Ch. X. Bending and Straightening of Sheets, Shapes, and Tubes [Ye.N. Moshnin]	112
Ch. XI. Stamping From Sheets and Strips [S.L. Zlotnikov and G.N. Rovinskiy]	119
Ch. XII. Automatic Pressworking Lines [S.L. Zlotnikov]	146
Ch. XIII. The Equipment of Blank-Producing Shops and Sections in Pressworking [P.V. Lobschev]	159
Ch. XIV. The Production of Blanks for [Machine] Parts by Helical Cross Rolling [S.P. Granovski and Ye. A. Stosha]	175
Ch. XV. Metal Extrusion on Hydraulic Presses [A.I. Kagalovski and L.A. Shofman]	188
Ch. XVI. Parts Forging From Light-Metal Alloys on Large Hydraulic Presses [L.D. Gol'man and L.A. Shofman]	201

Card 4/8

Present State of the (Cont.)

SOV/5799

36

Ch. XVII. Mass Production of Parts [Solid Wheels and Tires] by Forging With Subsequent Rolling [A.V. Altyks. and L.D. Gol'man] 203

Ch. XVIII. Forging and Bending of Plates [Ye.M. Moshain] 216

Ch. XIX. Making Large Forgings on Hydraulic Presses [N.S. Dobrinskiy. and N.V. Timochirov] 229

Ch. XX. Drop-Hammer and Crank-Press Forging [D.I. Berezhkovskiy. and V.F. Shecheglov] 224

Bibliography 225

FORGING IN THE USSR

Ch. I. The Development of Metal Forging Processes in the Czechoslovakian Socialist Republic [F. Drastik, Railroad Engineering Institute, Prague] 261

Card 5/8

36

Present State of the (Cont.)

SGT/5799

Ch. II. Making Large Forgings [B. Kraus, Nov Metallurgical Plant imeni Klement Gottwald, Kladice]	272
Ch. III. The Forging of Rotors for Turbogenerators [J. Novak, Metallurgical Plant imeni Lenin, Pilsen]	299
Ch. IV. The Forging of Large Crankshafts [S. Burda, K. Paul, and M. Hanz, Metallurgical Plant imeni Lenin, Pilsen]	314
Ch. V. Techniques Used in Forging Large Rotors [F. Zlatohlavek, Vitkovice Metallurgical Plant imeni Klement Gottwald, Ostrava]	335
Ch. VI. The Forging of Forked Pipes for Gas Pipelines [J. Cestka, Vitkovice Metallurgical Plant imeni Klement Gottwald, Ostrava]	345
Ch. VII. The Forging of Large Strengthening Rings for the Runners of Mixed-Flow Turbines [F. Hapla, Vitkovice Metallurgical Plant imeni Klement Gottwald, Ostrava]	348

Card 6/8

36

Present State of the (Cont.)

SGT/5799

- | | |
|--|-----|
| Ch. VIII. Scientific Research Work in the Field of Cold Impact Forging of Metals [F. Hrdáčil, Plant imeni Šmeral, Brno] | 355 |
| Ch. IX. Experience in the Cold Impact Forging of Nonferrous Metals [K. Marvan and J. Odcháňal, Plant Tesla, National Enterprise, Hloubětín, and V. Šindelář, Scientific Research Institute of Vacuum Electrical Engineering, Prague] | 381 |
| Ch. X. The Manufacturing Process and Organization in the Stamping of Bolts at the Automobile Plant "National Enterprise (AZNP) Mladá Boleslav" [Z. Kojval, AZNP, Mladá Boleslav] | 397 |
| Ch. XI. The Mechanization of Obsolete Enterprises as a Means of Increasing Labor Productivity [B. Škuner, Vítkovice Metallurgical Plant imeni Klement Gottwald, Ostrava] | 410 |
| Ch. XII. The Initial Pressworking of FeAl Alloys and Large FeCrAl Castings [F. Majer and J. Šolc, Scientific Research Institute of Iron, Prague]. | |

Card 7/8

22065

S/182/61/000/006/001/007
D038/D112

1.1260 also 1454
AUTHOR: Shofman, L.A.

TITLE: The technology of stamping large parts

PERIODICAL: Kuznechno-shtampovochnoye proizvodstvo, no. 6, 1961, 1-4

TEXT: New heavy hydraulic stamping presses in the USSR require new and improved technology. Only comparatively small aluminum parts could be cold stamped up till now. The article deals with the suggestions made after theoretical and experimental investigations that were carried out at TsKBIM and TsNIITMASH. The calculation method for pressure and metal flow has not been included since it was published previously: L.A. Shofman (Ref. 1: Osnovy rascheta protsessov shtampovki i pressovaniya [Fundamental calculations of stamping and pressing processes], Mashgiz, 1961) and L.A. Shofman and P.I. Perlin (Ref. 2: Osnovy teorii obrabotki metallov davleniyem [Fundamental theory of pressure metal working], ch. 7, Mashgiz, 1959). The results of the theoretical analysis consists in an approximate calculation formula for pressure on the projection area of the stamping done in closed dies (without burrs):

Card 1/4

22065

S/182/61/000/006/001/007
D038/D112

The technology of stamping

$$q = \frac{\sigma_s}{h} \left[\bar{a} + \bar{b} + \mu \bar{b} (\bar{b} + 2\bar{a}) + 0,4 (3\bar{a} - \bar{L}_0) \sqrt{\bar{L}_0} + \frac{\mu' (\bar{a} - \bar{L}_0)}{\bar{h}_n} \right],$$

where
rnc

$$\bar{a} = \frac{a}{h}; \quad \bar{b} = \frac{b}{h}; \quad \bar{h}_n = \frac{h_n}{h}; \quad \bar{L}_0 = \frac{L_0}{h} = 0,5 \bar{h}_n^2;$$

σ_s - resistance of metal to deformation (yield strength); b and h width and thickness of the burr; μ and μ' - rated friction factors on the contact surfaces of the burr and in the stamp cavity. The stamping effort can be determined graphically (Fig. 2). It has been confirmed in practice that pressure in cold stamping of pure aluminum is 60-100 kg/mm², and in aluminum alloys 120-200 kg/mm². Cold stamping ensures high surface quality and requires no subsequent machining. The metal strength is considerably raised after cold stamping, e.g. the strength of A1 (D1) alloy reaches 50 kg/mm² after cold deformation above 50%. Development of new technological lubricants for hot and cold stamping, and research into new die steel grades for high pressure up to 100 kg/mm² at 500°C and up to 300 kg/mm² at room tem-

Card 2/4

22065

S/182/61/000/006/001/007
D038/D112

The technology of stamping ...

perature are very important. Sectional stamping methods of large parts by presses of a limited capacity are being developed. Experimental work carried out by VNIIMETMASH confirmed the feasibility of the sectional stamping of thin-walled ribbed parts from aluminum alloys. A design of a closed die for the sectional stamping is shown (Fig. 4). The essence of this method consists in the press effort being transmitted to several die sections in succession. The die cavity is filled by excess metal from blank parts. The reaction force in the closed upper (1) and lower (2) die cavities is absorbed by the frame (3) through a wedge device (4). The excess metal is removed by subsequent machining. Experiments proved that a 2-3 times lesser effort is needed to fill the stamp impression. Sectional stamping of large disks from heat-resistant alloys has been developed and tested. Further experimental research in laboratory and plants is advocated. There are 4 figures and 2 Soviet references.

X

Card 3/4

The technology of stamping ...

22065

S/182/61/000/006/001/007
D038/D112

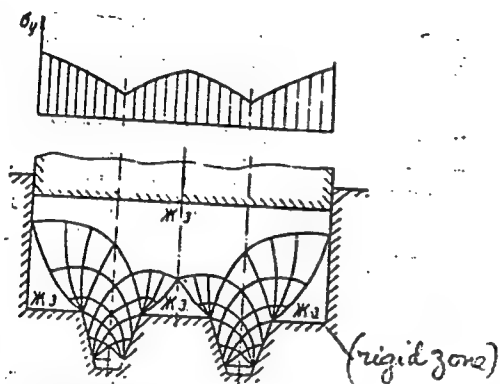


Рис. 2. Поля линий скольжения при штамповке в закрытых штампах и эпюры нормальных напряжений (Ж.З. — жесткая зона).

Fig. 2. Fields of slip lines in closed dies and normal stress curves (Ж.З. — zhestkaya zona /rigid zone/)

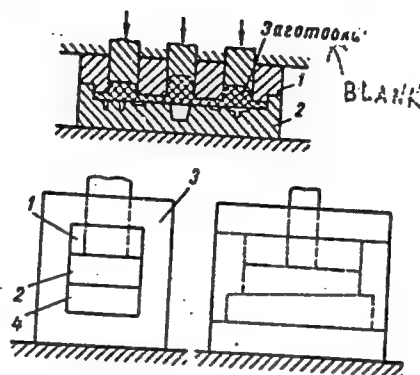


Рис. 4. Схема закрытой штамповки.

Fig. 4. Closed stamping design

SHOFMAN, L.A.; KAGALOVSKIY, A.I.

Die stamping in the United states of large-size parts on powerful -
hydraulic presses (review of foreign publications). Kuz. shtam.
proizv. 3 no. 5:37-41 My '61. (MIRA 14:5)
(United States--Sheet-metal work)

ROZHKOV, V.M.; SHOFMAN, L.A.; ROZANOV, B.V.; KUZ'KO, Yu.P.; PONGIL'SKIY, N.F.;
LIVANOV, V.A.; LUCHIN, V.V.; KUZNETSOV, K.I.; TSYPER, V.A.;
CHERNOSHATAN, V.K.

Points for pipe presses. Biul.TSIICHM no.9:52⁶⁶ MIRA 15:4)
(Pipe mills--Equipment and supplies)

S/902/62/000/000/004/015
E193/E383

AUTHORS: Shofman, L.A. and Rozhkov, V.M.
TITLE: Fabrication of profiles and tubes by extrusion
SOURCE: Novyye protsessy obrabotki metallov davleniyem;
doklady Soveshch. po novym prots. obrab. met.
davleniyem v mashinostr., 1960. Ed. by
V. D. Golovlev. Moscow, Izd-vo AN SSSR, 1962.
61 - 65

TEXT: This is a general discussion of recent development in the extrusion of articles with continuous or intermittently-varying cross-section. The advantages of the process are discussed and its principles are explained by briefly describing the following: 1) extrusion of profiles with a cross-section varying in a step-like fashion; 2) inverted extrusion of angle-profile with continuously varying cross-section; 3) inverted extrusion of internally-ribbed tubes with continuously varying outside and inside diameters and wall thickness; 4) direct extrusion of profiles whose cross-section varies in an irregular manner. The last of these processes is based on the application of an independently driven mandrel; its principle is schematically

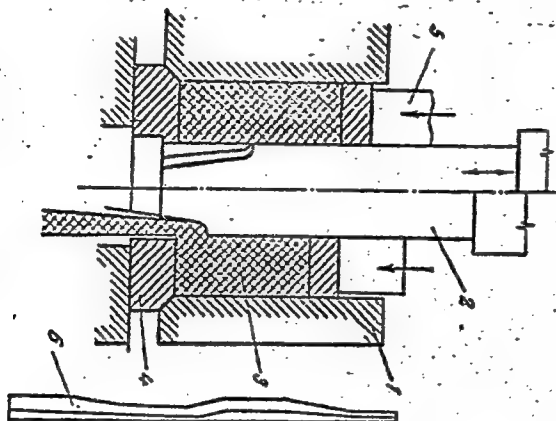
Card 1/2

Fabriaction of profiles

S/902/62/000/000/004/015
E193/E383

demonstrated in Fig. 4 showing: 1 - container; 2 - profiled
mandrel; 3 - extrusion billet; 4 - extrusion die; 5 - extrusion
ram; 6 - extruded profile. There are 5 figures.

Fig. 4:



Card 2/2

L 23560-65 EWT(m)/EWA(d)/EWP(t)/EWP(k)/EWP(b) Pf-4 JD/HW

ACCESSION NR AM4048668

BOOK EXPLOITATION

S/

Shofman, L. A.

14
Theory and calculations of cold forging processes (Teoriya i raschety protsessov kholodnoy shtampovki), 2d ed., rev., Moscow, Izd-vo "Mashinostroyeniye", 1964, 373 p. illus., biblio., tables. Errata slip inserted. 6,000 copies printed. Br1

TOPIC TAGS: cold forging

PURPOSE AND COVERAGE: The book gives the principles of the theory and methods of calculating the technological processes of cold forging. It gives information on the parameters of press equipment and the results of experimental research. The book is intended for engineers and researchers working in press shops, design organization, and research institutes. It can also be useful to teachers and students in higher technical education institutions.

TABLE OF CONTENTS [abridged]:

Introduction -- 3

Part 1. Principles in the theory of metal pressure working

Card 1/3

L 23560-65

ACCESSION NR AM4048668

- Ch. I. Stressed and deformed states -- 7
- Ch. II. Principles of engineering methods of calculating metal pressure working -- 21
- Ch. III. Strengthening metal in cold plastic deformation -- 50
- Ch. IV. External friction in cold plastic deformation of metals -- 86
- Ch. V. Experimental methods of studying the technology of cold forging -- 94
- Part 2. Cold forging sheet and tubular billets
- Ch. VI. Classification of technological processes -- 108
- Ch. VII. First operation of drawing a hollow cylinder with clamping of the billet -- 114
- Ch. VIII. First operation of drawing without clamping -- 159
- Ch. IX. Subsequent operations of drawing a hollow cylinder -- 172
- Ch. X. Drawing with thinning -- 185
- Ch. XI. Selection of optimal variant of the multi-operation drawing -- 211
- Ch. XII. Special forms of drawing sheet billets -- 233
- Ch. XIII. Flanging, shingling, and spreading -- 244
- Ch. XIV. Lubricants for deep drawing -- 254
- Part 3. Cold die forging
- Ch. XV. Basic information on die forging -- 258

Card 2/3

L 23560-65

ACCESSION NR AM4048668

Ch. XVI. Upsetting single-member billets -- 269
Ch. XVII. Upsetting multi-member billets -- 288
Ch. XVIII. Upsetting with flow of metal into gaps -- 310
Ch. XIX. Die forging -- 325
Ch. XX. Extrusion -- 342

SUB CODE: MM

SUBMITTED: 11Jun64

NR REF SOV: 087

OTHER: 040

Card 3/3

L 33966-65 EWT(d)/EWT(m)/EWA(d)/EWP(v)/EWP(t)/EWP(e)/EWP(h)/EWP(l)/EWA(c)

Pf-4 JD/HW

ACCESSION NR: AR5005708

S/0276/64/000/010/V004/V004 30
β

SOURCE: Ref. zh. Tekhnol. mashinostr. Sv. t., Abs. 10V23

AUTHOR: Rozanov, B.V.; Shofman, L.A.; Gol'man, L.D.; Maksimov, L.Yu.;
Rozhkov, V.M.; Andreyev, A.S.; Shcheglov, V.F.; Tokarskiy, A.P.

TITLE: Development of powerful forging presses and new pressure metalworking methods

CITED SOURCE: Tr. Vses. no.-i. i proyektno-konstrukt. in-ta metallurg. mashinostr.,
sb. 12, 1964, 353-391

TOPIC TAGS: pressure metalworking, hydraulic press design, hammer design

TRANSLATION: The article surveys the activities of VNIMETMASH from its inception.
Described are designs of hydraulic presses and hammers developed at the Institute, as
well as new technological processes for pressure metalworking (including hydrostatic
techniques) Bibl. with 21 titles; 26 illustrations. 18

SUB CODE: IE, MM ENCL: 00

Card 1/1

L 45091-65 EWT(d)/EWT(m)/EWA(d)/EWP(v)/EWP(t)/EWP(x)/EWP(h)/EWP(b)/EWP(1)/
EWA(c) Pf-4 JD/HW UR/0182/65/000/004/0001/0005
ACCESSION NR: AP5011054

29
25
B

AUTHOR: Saprykin, A. A.; Shofman, L. A.

TITLE: Metal flow while pressing items of variable cross section

SOURCE: Kuznechno-shtampovochnoye proizvodstvo, no. 4, 1965, 1-5

TOPIC TAGS: tube pressing, pipe pressing, metal pressing, die casting, metal flow, radius die technique, hodograph plotting

ABSTRACT: The authors call attention to the trend in recent years to use pressing methods in the manufacture of items with a variable cross section along their length. Among these methods, the process of producing blanks and finished items of tubular form having a variable and periodic cross section is of particular importance. The essential nature of this process is briefly described. In an experimental study of the process of pressing tubular blanks of this type, a ring-shaped narrowing was noted in the transitional zone from the thin-walled to the thick-walled part of the tube whenever a flat die was used. It was found to be possible to eliminate this defect in the pressed tubes by using the results of a theoretical investigation of metal flow, based in turn on a method of rigid-plastic analysis which takes into account, along with the plastic zones, the pre-

Card 1/4

L 45091-65

ACCESSION NR: AP5011054

sence in the deformed body of rigid (elastic) nuclei. Although this method, described in full in the present article, was developed for flat deformation, it can be used successfully when investigating the pressing of thin-walled tubes, since in this process the axial and radial deformations are many times greater than the tangential. Since the constriction or narrowing of the tube billet (skelp) is caused by a sharp change in the direction of metal flow when leaving the die as the duct passage changes, an analysis of the various pressing parameters and, in particular, the determination of the effect of die geometry and the position of the mandrel with respect to the die, requires that the direction of the flow speed vector be found for different cases. This is accomplished by plotting characteristic graphs in the plane of the velocities (i.e., a hodograph) according to a known field of characteristics in the physical plane. The construction of a hodograph makes it possible to determine the velocity vector for the displacement of any point in the plastic zone of the skelp as a function of the tool form and the relative arrangement of its individual parts. The characteristic field in the velocity plane is plotted, in the authors' approach, through the use of a graphic method, based on the condition of orthogonality with respect to the corresponding segments of the characteristics field in the physical field.

Card

2/4

L 45091-65

ACCESSION NR: AP5011054

An attempt is made to answer the question whether there is a change in the character of metal flow when pressing through a conical die as opposed to pressing through a flat die, all other conditions being equal. The analysis presented in this article shows that the defects (constrictions) which arise during pressing through a flat die at the points of transition from the thin-walled part of the tube to the thick-wall can be eliminated through the use of radius dies. Moreover, there is an optimal radius at which this narrowing disappears almost entirely. Numerous experiments in the pressing of tubes with periodically recurrent wall chamber, using light alloys on a 1000-ton horizontal hydraulic press and conducted in the pressing laboratory of VNIMETMASH have confirmed the results of the theoretical analysis presented in this paper: the use of dies with rounded edges makes it possible to reduce, and in certain cases to eliminate completely, fullering in pressing. The method proposed by the authors for the graphic construction of fields of characteristics and the corresponding hodographs for a tool with working surfaces of any configuration is of general interest, since it permits the solution of a number of practically important engineering problems having to do with various processes of pressure-working metals (closed impression die forging, drawing, rolling) with any form of contact surfaces for the working tool (draw plates, rollers, dies). "P. I. Perlin took part in the work." Orig. art. has: 9 figures and 6 formulas.

Card 3/4

L 45091-65

ACCESSION NR: AP5011054

ASSOCIATION: None

SUBMITTED: 00

NO REF SOV: 003

ENCL: 00

SUB CODE: MM, IE

OTHER: 000

me
Card

4/4

L 1653-66 EWT(m)/EWP(t)/EWP(k)/EWP(b)/EWA(c) JD/HW

ACCESSION NR: AP5021620

UR/0286/65/000/013/01C1/0101
621.979.984.002.54

AUTHOR: Shofman, L. A.; Gedymin, Yu. Yu.; Rozhkov, V. M.; Starikov, V. S.;
Kryuchkov, M. A.; Davydov, G. V.; Akhmetshin, M. A.; Kvitnitskiy, A. N.;
Rogozinskiy, A. A.; Feygin, V. I.; Yegorov, I. V.; Roytberg, L. Kh.; Yermanok, M. Z.
Rodionov, A. S.

TITLE: Method for tube extrusion. Class 49, No. 172601

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 13, 1965, 101

TOPIC TAGS: metal, metal tube, metal extrusion, tube extrusion

ABSTRACT: This Author Certificate introduces a method for tube extrusion from solid ingots. In this method the metal is first divided into several strips which are subsequently welded in the next die. In order to reduce the extrusion pressure, the diameter of the ingot should be smaller than that of the extruded tube. [AZ]

ASSOCIATION: none

SUBMITTED: 30Jan62

NO REF SOV: 000

Card 1/1 DP

ENCL: 00

OTHER: 000

SUB CODE: MM

ATD PRESS: 4093

L 1655-66 EWT(d)/EWT(m)/EWP(v)/EWP(t)/EWP(k)/EWP(h)/EWP(b)/EWP(l)/EWA(c)

JD/HW
ACCESSION NR: AP5021621

UR/0286/65/000/013/0102/0102
621.979.984.002.54

AUTHOR: Shofman, L. A.; Gedymin, Yu. Yu.; Rozhkov, V. M.; Starikov, V. S.;
Kryuchkov, M. M.; Davydov, G. V.; Akhmetshin, M. A.; Kvitnitskiy, A. N.;
Rogozinskiy, A. A.; Feygin, V. I.; Yegorov, I. V.; Roytbarg, L. Kh.; Yermanok, M. Z.;
Rodionov, A. S.

TITLE: Tool for extruding of tubes. Class 49, No. 172602

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 13, 1965, 102

TOPIC TAGS: tube, metal tube, tube extrusion, extrusion tool, extrusion press

ABSTRACT: This Author Certificate introduces a tool for the extrusion of tubes from solid ingots, i.e., container, mandrel, welding chamber, and die. In order to increase the rigidity of individual tools and ensure their precise position in relation to one another, thereby improving the accuracy of the extruded tubes, the mandrel is rigidly mounted in relation to the container; it carries an internal die and is provided with a central compartment for the ingot. Radial canals connect this compartment with the welding chamber, which is formed between container wall and the mandrel surface.

[AZ]

Card 1/2

L 1655-66

ACCESSION NR: AP5021621

ASSOCIATION: none

SUBMITTED: 31Jan62

ENCL: 00

SUB CODE: MM

NO REF SOV: 000

OTHER: 000

ATD PRESS: 4095

Card

2/2

HP

L 8854-66 EWT(d)/EWT(m)/EWP(v)/EWP(t)/EWP(k)/EWP(h)/EWP(b)/EWP(l)/EWA(c) JD/HW

ACC NR: AP5026483

SOURCE CODE: UR/0286/65/000/019/0009/0009

INVENTOR: Granovskiy, S. P.; Pyatunin, A. I.; Yefanov, V. I.; Yakovlev, S. A.;
Arutyunov, I. G.; Revunov, V. A.; Zemskov, A. A.; Shofman, L. A.

ORG: ~~not 44.55~~ 44.55 44.55 44.55

TITLE: Production of seamless tubes. Class 7, No. 175026. [Announced by All-Union Scientific Research and Design-Planning Institute of Metallurgical Equipment (Vsesoyuznyy nauchno-issledovatel'skiy i proyektno-konstruktorskiy institut metallurgicheskogo mashinostroyeniya)]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 19, 1965, 9

TOPIC TAGS: tube, seamless tube, thin wall tube, light alloy tube, metal rolling

ABSTRACT: This Author Certificate introduces a method for making seamless tubes, e.g., light-alloy tubes from rolled, forged, or cast tube shells. To obtain thin-wall tubes of large diameter with precise dimensions and a clean surface, the tube shell is first hot rolled with expansion in a helical mill and then cold rolled with elongation in a helical rolling mill. [AZ]

SUB CODE: 13/ SUBM DATE: 12Feb64/ ATD PRESS: 4152

Card 1/1

UDC: 621.774.3

L 33437-66 EWT(m)/EWP(w)/EWP(t)/ETI/EWP(k) IJP(c) JD/HW/EM

ACC NR: AP6012731

SOURCE CODE: UR/0136/66/000/004/0078/0081

AUTHOR: Shofman, L. A.

ORG: none

TITLE: Minimum thickness of butt and "jacket" in the pressing of nonferrous metals and alloys

SOURCE: Tsvetnyye metally, no 4, 1966, pp 78-81

TOPIC TAGS: metal pressing, waste metal, nonferrous metal, nonferrous metal alloy, die, mathematic analysis

ABSTRACT: In the pressing of shapes and tubes part of the metal has to be scrapped as butt. The minimum thickness of the butt at which the extrusion shrinkage cavity can still be averted may be determined by plotting slip-line fields (cf. Shofman, L. A. Teoriya i raschety protsessov shtampovki. Izd-vo "Mashinostroyeniye," 1964), which refers to the volume of the plastic zone bounded by two orthogonal slip lines Ab and BC within the rigid zone (Fig. 1): as the distance between the dummy block and the die decreases, the volume of the plastic zone gradually diminishes and the slip-line field changes correspondingly (Fig. 2) until the normal pressure exerted by the metal on the dummy block at point M becomes zero, which means the possibility of the formation of

Card 1/4

UDC: 669.2/.8 : 621.97

L 33487-66

ACC NR: AP6012731

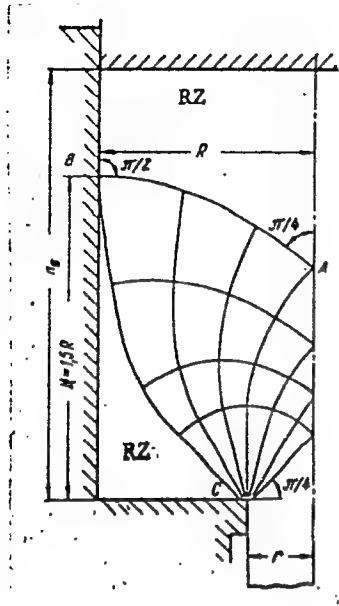


Fig. 1. Slip-line fields during the steady-state stage of pressing by the direct method without lubrication (assuming that the tangential stresses at the surfaces of contact between the blank and the tool have a constant maximum value equal to one-half of the yield point of the blank's metal, i.e. assuming that $\tau_c = 0.5 \sigma_s$); RZ = Rigid Zone

Card 2/4

I. 33487-66

ACC NR: AP6012731

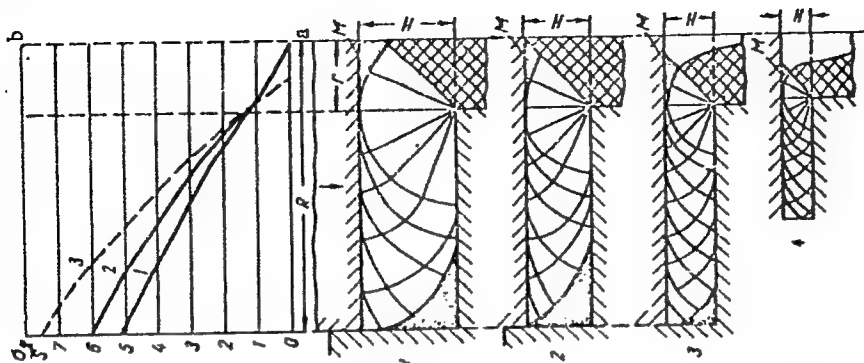


Fig. 2. Slip-line fields (a) and stress-strain diagrams (b) during the unsteady-state stage of pressing by the direct method without lubrication ($\tau_c = 0.5 \sigma_s$):

1 - $H = r\sqrt{2}$; 2 - $H = r$; 3 - $H = 0.75 r$; 4 - $H = 0.5 r$

Card 3/4

L 33487-66

ACC NR: AP6012731

'an extrusion shrinkage cavity. This possibility can be averted by determining the minimum thickness H_{\min} of the butt from the formula for the minimal percentage of the metal wasted as the butt:

$$\alpha_{\min} = \frac{H_{\min}}{H_0} \cdot 100 = \frac{100}{2 m \sqrt{\lambda}} \%,$$

where $\lambda = D^2/d^2$ is the elongation coefficient, D and d are the diameters of the blank and the end-product, respectively; $m = H_0/D$ (H_0 is the initial height of the blank). Further, the hot pressing of nonferrous metals leads to the formation of the so-called "jacket"; the dummy block, whose diameter is somewhat smaller than the diameter of the container, separates the outer defective annular layer of the ingot, which is subsequently scrapped. The length of this "jacket" may not exceed the original length of the ingot, i.e. the metal should not flow into the gap between the dummy block and the container in the direction opposite to the direction of the dummy block. On this basis a corresponding formula for the optimal thickness of the "jacket" is derived for an ingot of radius R being extruded through a die hole of radius r. Orig. art. has: 4 figures, 2 tables.

SUB CODE: 13, 11/ SUBM DATE: none/ ORIG REF: 004/ OTH REF: 001

Card 4/4 92.

ACC NR: AT7007354 SOURCE CODE: UR/0000/66/000/000/0152/0157

AUTHOR: Shofman, L. A.

ORG: none

TITLE: Extrusion of complex shapes

SOURCE: Soveshchaniye po avtomatizatsii protsessov mashinostroyeniya. 4th, 1964. Avtomatizatsiya protsessov svarki i obrabotki davleniyem (Automation of welding and pressure treatment processes); trudy soveshchaniya. Moscow, Izd-vo Nauka, 1966, 152-157

TOPIC TAGS: ~~METAL extrusion, extrusion, aluminum extrusion, copper aluminum extrusion, METAL TUBE, EXTRUDED FORGING, EXTRUDED ALUMINUM~~

ABSTRACT: The author briefly reviews some new methods for extruding various shapes developed and tested at the All-Union Scientific Research Institute of Metallurgical Machinery (VNIIMETMASH) including reverse extrusion of variable section shape and tubes, extrusion of flat and finned steel tubes with variable thickness and height of fins and extrusion of variable-section aluminum-alloy tubes with 12 longitudinal channels. Variable and periodical section shapes and tubes are extruded by a cyclic reverse operation mandrel. Aluminum alloy tubes

Card 1/2

UDC: none

ACC NR: AT7007354

extruded with ring-shaped thickening were successfully tested in drill-hole operations; their strength is similar or higher than that of steel tubes and they are 2.5 times lighter. Tubes with dead end were obtained which can be used for production of thin-walled containers with thickened bottom and neck. Extrusion of aluminum alloy tubes 250 mm in diameter with longitudinal inner fins and ring-shaped thickening and experimental specimens of steel tube with thickened ends were obtained. Double-channel aluminum tubes, 7mm in diameter, 0.5-0.7mm (wall) thick with diametric baffle plate, were used as heat exchangers for an experimental unit at the Institute of Physical Problems AN SSSR. Aluminum-alloy-tube heat exchangers with internal and external screw fins and steel tubes with external right or screw tooth used as blank for production of gear wheel and rings were extruded. A technological process, working tool and unit for semicontinuous hot extrusion of steel-aluminum or copper-aluminum cable has also been developed. Orig. art. has: 9 figures. [42]

SUB CODE: 13/ SUBM DATE: none

Card 2/2

SUBJECT: USSR/Medicine

25-5-23/35

AUTHOR: Novinskiy, G., Dr. and Shofman, M. Dr.

TITLE: Acupuncture - (Chzhentsyuterapiya)

PERIODICAL: Nauka i Zhizn' - May 1957, No 5, p 51 (USSR)

ABSTRACT: The needle puncturing therapy has been known in China for many centuries. It consists of pricking into certain spots of the human body with a special needle and turning it several times. According to Chinese experts there are from 100 to 720 such spots, each of which corresponds with some body organ or an illness. Two puncturing methods are distinguished: one soothing, the other irritating. Acupuncture has given satisfactory results when applied against sciatica, heartaches, muscular rheumatism and similar pains in other organs. Tests have revealed that satisfactory results largely depend on the skill with which the needle is handled. Acupuncture has been lately adopted by a few Soviet hospitals.

Card 1/2

SHOFMAN, Maks Adol'fovich; SOROKO, Ya.I., red.; RAKITIN, I.T., tekhn.
red.

["Secrets" of oriental medicine]"Sekrety" vostochnoi meditsiny.
Moskva, Izd-vo "Znanie," 1963. 39 p. (Novoe v zhizni, nauke,
tekhnike. VIII Seriya: Biologiya i meditsina, no.2)

(MIRA 16:1)

1. Klinika Moskovskogo gosudarstvennogo universiteta (for Shofman).
(MEDICINE, CHINESE) (MEDICINE, HINDU)

SHOFMAN, M.Sh.; SHUL'GIN, A.V.

Automation of filler production processes. Biul.tekh.-ekon.
inform.Gos.nauch.-issl.inst.nauch.i tekhn.inform. 16 no.6:42-45
'63. (MIRA 16:8)

(Mixing machinery) (Automation)

SHORMAN, M.Sh.

Manufacturing a set of high-precision groove-grinding machines.
Bibl. tekhn.-ekon. inform. Gos. nauch.-issl. inst. nauch. i tekhn.
inform. 18 no.7:25-27 J1 '65.
(MIRA 18:9)

SORSHER, I.I.; SHOFMAN, M.S.

Introducing an automatic line for zinc plating of parts.
Bul.tekh.-ekon.inform.Gos.nauch.-iscl.inst.nauch.i
tekh.inform. 18 no.11:9 N '65.

(MIRA 18:12)

VARSHAVSKIY, D.S., inzh.; LANTSEV, A.G., inzh.; SHOFMAN, O.S., inzh.;
PETRASHKEVICH, N.I., inzh.

Power factor increasing KMV and KSV-series condensers.

Vest. elektroprom. 33 no.5:56-61 My '62. (MIRA 15:5)

(Ust'-Kamenogorsk--Electric equipment industry)

(Condensers (Electricity))

SHOGAM, A. N. and RISHAN, B. Ya.

"Problem of the Pathogenesis of Poisoning by Tetraethyl Lead," Far. i Toks.,
11, No.3, 1948

30977. GHOGAN, A. N., RASHAP, B. YA., AND SHEVKO, A. D.

Nekotorye fiziologicheski aktivnye veshchestva v krovi donorov. Trudy
Ukr. psikhonevrol. In-ta, t. XXV, 1949, s. 31-36

31077. SHOGAN, A. N.

Gumoral'nye faktory reaktivnosti nervnoy sistemy pri shizofrenii.
Trudy Ukr. psikhonevkol. in-ta, t. xxv, 1949, s. 45-58

SHOGAM, A.N.

Tikhon Ivanovich Iudin; 5th anniversary of his death. Zhur. nevr.
i psikh. 54 no.11:945-947 N '54. (MLRA 8:1)
(IUDIN, TIKHON IVANOVICH, 1879-1949)

POGIBKO, I.I.; PLOTICHER, A.I.; SHOGAM, A.N.

Tasks and methods in the prevention and preventive therapy of
mental diseases. Zhur.nevr. i psikh. 55 no.7:535-539 '55.

(MLRA 8:10)

1. Ukrainskiy nauchno-issledovatel'skiy psikhonevrologicheskiy
institut.

(MENTAL DISORDERS, prevention and control)

SELETSKIY, A.I.; SHOGAM, A.N. (Khar'kov)

Improving statistics in psychoneurological institutions discussion.
Zhur.nevr. i psikh. Supplement:96-97 '57. (MIRA 11:1)
(MEDICAL RECORDS)

SHOGAM, A.N.; SELETSKIY, A.I.

Calculatory methods for evaluating some statistical data on the
work of psychoneurological institutions. Zhur.nevr. i psikh.
Supplement:97-98 '57. (MIRA 11:1)

1. Iz organizatsionno-metodicheskogo otdela (zav. A.N.Shogam)
Ukrainskogo nauchno-issledovatel'skogo psikhonevrolologicheskogo
instituta, Khar'kov.
(MEDICAL RECORDS)

LESHCHENKO, A.I.; SHOGAM, A.N.

Some complex forms of the disturbance of the space perception.
Zdrav.Turk. 2 no.5:26-30 S-O '58. (MIRA 12:6)

1. Iz kliniki nervnykh bolezney (zav. - zasluzhennyy prof.A.I. Geymanovich [deceased]) Ukrainskogo nauchno-issledovatel'skogo psikhonevrologicheskogo instituta i kafedry psikiatrii (zav. - dots. A.N.Shogam) Turkmenskogo gosudarstvennogo meditsinskogo instituta im. I.V.Stalina.
(SPACE PERCEPTION) (PERCEPTION, DISORDERS OF)

SHOGAM, A.N.

Some aspects of the reorganization of psychiatric education. Zhur.
nevr.i psikh. 59 no.10:1256-1258 '59. (MIRA 13:3)

1. Kafedra psikhiatrii (zaveduyushchiy A.N. Shogam) Turkmenskogo
meditsinskogo instituta.
(PSYCHIATRY educ.)

LESHCHENKO, A.G.; SHOGAM, A.N.

New type of pathological grasping reflex and its significance in the diagnosis of tumors of the frontal lobe. Zdrav. Turk. 4 no. 3:28-32 My-Je '60. (MIRA 13:10)

1. Iz kliniki nervnykh bolezney (zav. - prof. A.I. Geymanovich [deceased] Ukrainskogo psikhonevrologicheskogo instituta i kafedry psikhiatrii (zav. - dotsent A.N. Shogam) Turkmenskogo gosudarstvennogo meditsinskogo instituta im. I.V. Stalina. (REFLEXES) (BRAIN—TUMORS)

SHOGAM, A.N. (Khar'kov)

"Nature of the individual consciousness (in healthy and pathological conditions)" by A.A.Megrabiana. Reviewed by A.N.Shogam. Zhur. nevr. i psikh. 61 no.11:1741-1744 '61. (MIRA 15:2)
(CONSCIOUSNESS) (MEGRABIANA, A.A.)

SHOGAM, I.I.

Method for the investigation of skin sensitivity. Vrach.delo
no.3:315 Mr '60. (MIRA 13:6)

1. Odesskiy nauchno-issledovatel'skiy psikhonevrologicheskiy
institut.
(MEDICAL INSTRUMENTS AND APPARATUS) (SKIN)

LISTITSKAYA, F.M.; SHOGAM, I.I.

Role of the sympathetic trunk in the clinical picture of lesions
of the midbrain. Zhur.nevr. i psikh. 63 no.12:1813-1817 '63.
(MIRA 18:1)

I. Odesskiy nauchno-issledovatel'skiy psikhonevrologicheskiy
institut (direktor A.G.Leshchenko, nauchnyy rukovoditel' - prof.
A.Yu.Vyyasnovskiy)

CA
SHOGAM, S.-M.

2

Kinetics of the oxidation of nitrogen oxide on activated charcoal. G. K. Borekov and S. M. Shogam. *J. Phys. Chem. (U. S. S. R.)* 8, 306-25 (1938).—The rate of oxidation of NO by O₂ on activated charcoal at 15° is given by the equation $-\frac{dC_{NO}}{dt} = K \frac{C_{NO}^2 C_{O_2}}{C_{NO} + C_{O_2}}$. CO₂ does not affect the rate of the reaction, while H₂O vapors strongly reduce the rate at 100° to 120° indicating a heat of adsorption of H₂O on charcoal of 10,000 cal./mole. For 3% NO mixts. the max. rate of reaction occurs at 70°, the energy of activation changing from 3200 cal. at 15° to 0 at 70° and to -8400 cal./mole at 120°. F. H. Rathmann

ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION

SHOGAN, S. M.

"Vanadium Catalyst for the Manufacture of Sulfuric Acid," S. M. Shogan,
USSR Pat 64,307, Feb 28, 1945 (SEE: Inst. Insect/Fungi. in Ya. V.
Samoylov)

SO: U-237/49, 8 April 1949

SHOGAN, S. M.

36588. BELOFEL'SKIY, A. P. i SHOGAN, S. M. O Kristallizatsii Aresenatov Kaltsiya. Zhurnal Fiz. Khimii, 1949, Vyp. 11, c. 1266-74. - Bibliogr: 9 Nazv.

SO: Letopis' Zhurnal'nykh Statey, Vol. 50, Moskva, 1949

SHOGAM, S.M.

Physicochemical properties of calcium arsenates. S. M. Shogam and N. I. Trushkova. *Zhuk. Priklad. Khim.* (U.S. Applied Chem.) 22, 31-40 (1969). Two groups of Ca arsenates are obtained. The first includes $\text{CaO} \cdot \text{As}_2\text{O}_5 \cdot 5\text{H}_2\text{O}$ (I) and $3\text{CaO} \cdot \text{As}_2\text{O}_5 \cdot 10\text{H}_2\text{O}$ (II), and is characterized by high soly. in the pH range 7.5-10. The aq. suspension of I has a pH=9.6, and, in titration with HCl in the presence of phenolphthalein, final neutralization takes place when about 14% CaO has been titrated; the aq. suspension of II has pH 9.1, and is neutralized when about 5.6% CaO has been consumed by the titration. The second type, including $3\text{CaO} \cdot \text{As}_2\text{O}_5 \cdot 2\text{H}_2\text{O}$ and its solid solvs. with $\text{Ca}(\text{OH})_2$, shows a $\text{CaO}:\text{As}_2\text{O}_5$ ratio of 3.2-3.8; it is characterized by low soly. in the pH range 7.5-10; the aq. suspension has pH 8.3-8.6, and neutralization corresponds to consumption of about 1-2% CaO. Possibly, the differences between the 2 types are due to differences in crystal lattice structures. Detns. of soly. as a function of the pH and titration provide a means of identification of the phase compn. of con. Ca arsenate preps. N. Thon.

Sci. Inst. Fertilizers + Insecto-fungicides

CA

SHOGAM, S.M.

2

Crystallization of calcium arsenates. A. P. Belogol'skiĭ and S. M. Shogam (Samolov Inst. Fertilizers and Insectofungicides, Moscow). *Zhur. Fiz. Khim.* 23, 1291, 74(1949).—On mixing solns. of $\text{Ca}(\text{OH})_2$ and As_2O_3 in the mol. ratio r 2.8:1 to 15.5:1, a gel of the approx. compn. $3\text{CaO} \cdot \text{As}_2\text{O}_3 \cdot 10\text{H}_2\text{O}$ (I) forms; it gives no cryst. x-ray pattern. If r is large, the gel contains an excess of CaO (e.g. 3.25 mol. instead of 3). At 17° , it is converted into cryst. I (x-ray pattern given), and the time of conversion (hrs.) increases with r . If r is greater than 4.5 and the supernatant liquid contains more than 0.2 g. CaO per l., cryst. I is transformed into $4\text{CaO} \cdot \text{As}_2\text{O}_3 \cdot 8\text{H}_2\text{O}$ (II). X-ray patterns show that the sediment during this transformation is a mech. mixt. of I and II. The duration of this transformation (10–120 hrs.) decreases when r increases. The transformation starts after a latent period during which, presumably, the mother liquor becomes supersatd. with II. At 40 – 60° the primary gel yields, when the mother liquor contains less than 0.01 g. CaO per l., cryst. $3\text{CaO} \cdot \text{As}_2\text{O}_3 \cdot 2\text{H}_2\text{O}$ (III). III gives solid solns. with $\text{Ca}(\text{OH})_2$ when the CaO concn. is greater than 0.01 and less than 0.6 (at 40°) or less than 0.8 g./l. (at 60°). At higher $\text{Ca}(\text{OH})_2$ concns. II forms. J. J. Bikerman

USSR/Chemistry - Insacticides

FD-505

Card 1/1 : Pub. 50-4/23

Authors : Bezuglyy, S. F., Cand. Chem. Sci., and Shogam, S. M., Cand. Chem Sci

Title : Some physico-chemical properties of insecticide emulsions and insecticide dusts

Periodical : Khim. prom., 272-278 (16-22), Jul/Aug 1954

Abstract : Reviews on the basis of USSR work the properties of emulsions and dusts containing DDT, hexachlorocyclohexane, thiophos, and chlorten (chlorinated turpentine or chlorinated alpha-pinene fraction). Describes procedures for the production of these emulsions and dusts. Twenty two references; 20 of them USSR, all since 1940. Three graphs.

Institution : Scientific Research Institute of Fertilizers and Insectofungicides.

Submitted :

Shogam, S. M.

4

Physicochemical study of calcium arsenate. S. M. Shogam (Sci. Inst. Fertilizers and insecticides, Azer. SSR, Odesk. Khim. Nauk 1955, 213-24).—Previous observations (C. I. 44, 2816d) were confirmed and addnl. study revealed that NaAsO_4 in aq. suspension of Ca(OH)_2 reacts to form $\text{CaNaAsO}_4 \cdot 8\text{H}_2\text{O}$ at 20° or $\text{CaNaAsO}_4 \cdot 4\text{H}_2\text{O}$ above 20° . The octahydrate is metastable when the ratio of the reactants (expressed as $\text{CaO}:\text{As}_2\text{O}_5$) is >2 , and at 20° it changes into $4\text{CaO}:\text{As}_2\text{O}_5 \cdot 5\text{H}_2\text{O}$ (I). The tetrahydrate is metastable even when the ratio is 2:1 and it changes at elevated temp. either into I or into solid solns. of Ca(OH)_2 in the $3\text{CaO}:\text{As}_2\text{O}_5 \cdot 2\text{H}_2\text{O}$ (II). Study of thermograms and x-ray photographs revealed that $3\text{CaO}:\text{As}_2\text{O}_5 \cdot 10\text{H}_2\text{O}$ when heated to 500° , besides dehydration at $90-100^\circ$, did not undergo any other changes. At $200-215^\circ$ I lost water and at 350° went into solid phase. Heating II contg. solid solns. of Ca(OH)_2 up to 500° did not change the parameters of the crystal grating. A. P. Kotloby

MS
JW